

WHAT IS CLAIMED IS:

1. An emission control valve for use in an emission control system of an internal combustion engine comprising:

valve body structure providing an inlet port at which flow enters the valve, an outlet port at which flow exits the valve, a valve element cooperating with a seat element for selectively restricting flow between the inlet port and the outlet port by selectively restricting flow through the seat element, an actuator for selectively positioning the valve element along an axis relative to the seat element, wherein the seat element comprises first and second valve seats axially spaced apart and the valve element comprises first and second closures axially spaced apart, each closure arranged to seat on the respective seat for closing flow between the inlet port and the outlet port and to unseat from the respective seat for allowing flow between the inlet port and the outlet port, and

wherein the seat element comprises an axially extending wall that circumscribes a space between its seats and that contains plural apertures through which that space is in open to one port.

2. A valve as set forth in claim 1 wherein the plural apertures comprise two apertures spanning essentially a semi-circumference of the seat element and separated by an axially extending bar in the wall.

3. A valve as set forth in claim 2 wherein the two apertures have essentially identical open areas.

4. A valve as set forth in claim 1 wherein the seat element is a machined metal part.

5. A valve as set forth in claim 1 wherein the one port is the inlet port through which flow enters the valve, and the first and second closures impart some degree of force-balance to the valve.

6. A valve as set forth in claim 1 wherein the valve body structure comprises a base, and the seat element is a separate part disposed within an interior space of the base.

7. A valve as set forth in claim 1 wherein a portion of the wall extends axially beyond one of the seats and contains at least one aperture through which space circumscribed by that portion of the wall is open to the other port.

8. A valve as set forth in claim 7 wherein the valve body structure comprises a base having an interior within which the seat element is disposed, and the at least one aperture opens to a passageway that runs through a wall of the base to the other port.

9. A valve as set forth in claim 7 wherein the at least one aperture comprises two apertures collectively spanning more than a semi-circumference of the seat element and separated by an axially extending bar in the wall.

10. A valve as set forth in claim 9 wherein the plural apertures comprise two apertures spanning

essentially a semi-circumference of the seat element and separated by another axially extending bar in the wall, the two bars being substantially diametrically opposite each other.

11. A method of making a seat element for a double-pintle valve, the method comprising:

providing a cylindrical walled metal part,

processing the part to create two axially spaced apart seats for seating respective closures of a double-pintle, two through-apertures separated by an axial bar in the cylindrical wall axially between the seats, and at least one through-aperture in the cylindrical wall axially beyond one seat relative to the other seat.

12. A method as set forth in Claim 11 further comprising:

processing the part to create the at least one through-aperture in the cylindrical wall axially beyond one seat relative to the other seat as two through-apertures separated by another axial bar in the wall.

13. An internal combustion engine comprising an exhaust gas recirculation system for recirculating some engine exhaust gas through the engine via an exhaust gas recirculation valve external to engine combustion chambers wherein the valve comprises valve body structure providing an inlet port at which exhaust enters the valve, an outlet port at which exhaust exits the valve, a valve element cooperating with a seat element for selectively restricting flow between the inlet port and the outlet port by selectively restricting flow through the seat element, an

actuator for selectively positioning the valve element along an axis relative to the seat element, wherein the seat element comprises first and second valve seats axially spaced apart and the valve element comprises first and second closures axially spaced apart, each closure arranged to seat on the respective seat for closing flow between the inlet port and the outlet port and to unseat from the respective seat for allowing flow between the inlet port and the outlet port, and wherein the seat element comprises an axially extending wall that circumscribes a space between its seats and that contains plural apertures through which that space is in open to the inlet port.

14. An engine as set forth in claim 13 wherein the plural apertures comprise two apertures spanning essentially a semi-circumference of the seat element and separated by an axially extending bar in the wall.

15. An engine as set forth in claim 14 wherein the two apertures have essentially identical open areas.

16. An engine as set forth in claim 13 wherein the first and second closures impart some degree of force-balance to the valve.

17. An engine as set forth in claim 13 wherein a portion of the wall extends axially beyond one of the seats and contains at least one aperture through which space circumscribed by that portion of the wall is open to the outlet port.

18. An engine as set forth in claim 17 wherein the valve body structure comprises a base having an interior within which the seat element is disposed, and the at least one aperture opens to a passageway that runs through a wall of the base to the outlet port.

19. An engine as set forth in claim 17 wherein the at least one aperture comprises two apertures collectively spanning more than a semi-circumference of the seat element and separated by an axially extending bar in the wall.

20. An engine as set forth in claim 13 wherein the engine comprises a diesel engine and the exhaust gas recirculation system recirculates diesel exhaust gases.